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ABSTRACT

To develop an approach for a nondiscriminatory identification model for gifted students in Rome (GA) City Schools, mean IQ scores on the Otis-Lennon Mental Ability test were compared for fourth, fifth, and tenth grade students divided into four groups: White advantaged, White disadvantaged, Black advantaged, and Black disadvantaged. A significant difference in the mean IQ score for each group was found to exist, thus lending support to the rationale for establishing and using local norms. Similar results were shown for the Iowa Test of Basic Skills reading and math scales. A model is proposed which uses local norms for the two tests, followed by analysis of scores on the Ravens Standard or Progressive Matrices, the Renzulli-Hartman Scale, and the Baldwin Identification Matrix. (CL)

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AN APPROACH TO DEFENSIBLE NONDISCRIMINATORY IDENTIFICATION MODEL FOR THE GIFTED

by

ROBERT R. LONG

A Research Report Submitted to the Graduate Faculty of

West Georgia College in Partial Fulfillment

of

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of

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AN APPROACH TO A DEFENSIBLE

NONDISCRIMINATORY IDENTIFICATION MODEL FOR THE GIFTED

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ABSTRACT

AN APPROACH TO A DEFENSIBLE
NONDISCRIMINATORY IDENTIFICATION MODEL FOR THE GIFTED

By

Robert R. Long

The purpose of this study was to develop an approach to a defensible, nondiscriminatory identification model for the gifted program of Rome City Schools.

A self study of the gifted program of Rome City Schools revealed a disproportionately small number of minority and disadvantaged students in the gifted program; and a need for a more equitable method of identifying those minority and disadvantaged students who are gifted.

Most gifted programs rely very heavily on group intelligence and group achievement test scores as part of their identification procedures. As a result, many disadvantaged children that are truly gifted, remain unidentified because they cannot be adequately measured.

Group tests that are presently in use have been validated on white, middle class, surburban subjects. Because group tests stress

verbal ability, certain disadvantaged groups are penalized.

Researchers agree that an individual intelligence test is the most effective means of identification of the gifted. However, very few school systems have the resources with which to employ enough psychologists and psychometrists to administer and to interpret the results of individual tests in order to identify gifted students.

Because of the lack of resources, group tests must be used by school systems as part of their identification procedures. It is the contention of this study, that group intelligence and achievement tests can be used effectively and fairly to identify the gifted if local norms are developed for various groups.

This study divided the school population of Rome City Schools into four groups: White Advantaged, White Disadvantaged, Black Advantaged, and Black Disadvantaged. Advantaged is defined by this study, as referring to those children who are not eligible to receive free or reduced school lunches according to the guidelines set by the U.S.D.A. Disadvantaged refers to those children who are eligible to receive free or reduced school lunches according to the U.S.D.A. guidelines.

The study develops the criteria to be used in the identification model and develops a rationale supporting the use of each criteria. Mean IQ scores on the Otis-Lennon Mental Ability test for fourth, fifth, and tenth grade students, were compared for each group using the analysis of variance procedure. A significant difference in the mean IQ score for each group was found to exist, thus lending support to the rationale for establishing and using local norms.

A similar comparison was made for sixth, seventh, and tenth grade students, using the mean reading and math scores on the Iowa Test of Basic Skills. A significant difference in the mean reading and mean math scores was also found to exist between the four groups, lending additional support to the rationale for developing local norms to minimize the verbal bias of group intelligence and achievement tests.

The study proposes an identification model consisting of six assessment items to be used in conjunction with the Baldwin Identification Matrix. The BIM pulls together all the assessment techniques used into a total score that can rank order students and allow selection according to the rank of the student.

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CHAPTER 1

Introduction

Identification of gifted and talented students is and has been one of the major challenges of gifted education. Educators have struggled with this problem over the past fifty years focusing their concern on the issue of intelligence and how it can be measured. The Terman study addressed this issue and gave respectability to intelligence tests as a means of measuring mental ability of the individual. As a result of this study, standardized group intelligence and achievement tests have gained in popularity and use. Scores on these group tests have become the single criteria for selection of students for gifted programs in many school systems.

Research indicates that most group tests presently in use have been validated on white, middle class, surburban subjects. Therefore, when used for identification purposes, group tests discriminate against the economically and culturally disadvantaged student. Because of this discrimination, Federal Courts and the Office of Civil Rights have brought suit against some school systems that use group tests exclusively in the identification and selection process for gifted education programs. Two school systems in Georgia are presently undergoing litigation.

Background of Study

The Rome City School System is composed of two high schools, two junior high schools and eight elementary schools and, it has a total enrollment of 4,987 students. Of this total enrollment, 2,144 or 43 percent is from a minority background. By Title I Standards, 2,237 students or 45 percent of the total population is identified as economically disadvantaged.

The gifted program in Rome City Schools is presently serving 113 students or 2 percent of the total enrollment. Of these 113 gifted students, seven, or 6 percent meet the disadvantaged criteria and fifteen or 13 percent are minority children. These figures reflect that only 0.3 percent of disadvantaged students and only 0.6 percent of minority students are identified as gifted by current criteria.

A self study of the Rome city gifted program revealed the following:

1. There is a disproportionately small number of minority and disadvantaged students in the gifted program. The IQ score of one and three-fourths standard deviation above mean of a standardized test required by the state criteria eliminates many minority and disadvantaged students who exhibit characteristics of the gifted.
2. There is a need for a method of identifying those minority and disadvantaged students who are gifted. Without a differentiated identification criteria, many truly gifted youngsters are not being

identified or provided services to increase their potential educational development.

Statement of Problem

The purpose of this study is to develop an approach to a defensible, nondiscriminatory identification model for the gifted program of Rome City Schools.

Significance of Study

This study is significant in view of current court cases involving some school systems that have used group tests almost exclusively for identification of the gifted. In addition to avoiding costly litigation, a defensible nondiscriminatory model for screening and identification of the gifted would be of great importance to Rome City Schools, as well as to other school systems in the state. It could become a model or standard method of identification for the state. Of further significance, is the increasing need for problem solvers to deal with the growing number of world problems. As indicated in Rome city self study, a disproportionately small number of minority and disadvantaged gifted students are being identified for the gifted program. If one multiplies this situation many times over, it becomes apparent just by sheer numbers that the abilities of unidentified gifted students are being wasted and lost to society. These students could become the needed problem solvers.

Limitations of Study

This study is limited to the following:

1. Academic criteria because the gifted program will be an academic program.
2. It will not be concerned with gifted or exceptional children in any area except the academic area (not sports, music, etc.).
3. The results of this study will be applicable only for the gifted programs in the Rome City Schools. The process will be applicable for other systems using similar imstruments, but specific results will be applicable only in Rome.
4. The results of the study will be limited to identifying gifted students in grades 4-12. The instruments and methodology utilized are not appropriate for primary students. This will be the subject of a later study.
5. The results will be limited to black and white students only, and not students of other races. The Rome City Schools do not have a sufficient number of students from other races to develop norms.
6. The definition of disadvantaged will be limited to those students receiving free or reduced lunches. This is accepted by the Federal Government for Title I.

Definition of Terms

For the purpose of this study, the basic terms are defined as follows:

Gifted - are those children and youth who possess a high degree of general intellectual ability and have the potential for high academic achievement and performance.[1] These students have the intellectual potential to become high level innovators, evaluators, communicators, problem formulators and/or problem solvers in our complex society.

Characteristics of the Gifted - are those observable traits and abilities that describe those children and youth that are identified as gifted.

Identification - is that process of locating students of a school population who exhibit the traits, characteristics and abilities of the gifted.

Economically Disadvantaged - refers to those children and youth of all races who are poor or economically deprived and who are eligible to receive free or reduced school lunches according to the guidelines set by U.S.D.A.

White Advantaged - are those children and youth who are members of the Caucasian race only, and who are not eligible to receive free or reduced school lunches

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[1] State Department of Education, State Plan for the Education of the Gifted, 1979 (Atlanta, GA: Office of Instructional Services, Division of Special Programs, 1979), p. 14.

according to the guidelines set by U.S.D.A.

White Disadvantaged - are those children and youth who are members of the Caucasian race only, and who are eligible to receive free or reduced school lunches according to the guidelines set by U.S.D.A.

Black Advantaged - are those children and youth who are members of the Negro race only, and who are not eligible to receive free or reduced school lunches according to the guidelines set by U.S.D.A.

Black Disadvantaged - are those children and youth who are members of the Negro race only, and who are eligible to receive free or reduced school lunches according to the guidelines set by U.S.D.A.

CHAPTER II

Review of Literature

The review of literature will include the following major topics:

1. Definition of the gifted
2. Characteristics of the gifted
3. Importance of identification
4. Identification problems
5. Identification procedures

Definition of the Gifted

In developing an identification model to identify the gifted it is necessary to define the term. Definitions will vary from community to community, depending on what levels of ability and special talents are to be included, on allowances to be made for environmental deprivations, and on the number of children to be served.

Over the years, educators have vacillated continuously in their definitions of giftedness. At one time or another the following criteria for identifying giftedness have been used:

1. Capability of completing comprehensive assignments and assuming more responsibility
2. Intelligence test scores

3. Physical characteristics
4. Scholastic achievement
5. Reading comprehension
6. Inferential statistics
7. Capability of high performance in (a) specific academic areas, (b) the visual and performing arts, (c) leadership ability, (d) psychomotor ability and (e) creative or productive ability

Havinghurst defines the gifted child as "one who is superior in some ability that can make him an outstanding contributor to the welfare of and quality of living in society."

The Georgia State Department of Education defines as gifted, those children and youth who possess a high degree of general intellectual ability and have the potential for high academic achievement and performance. "These students have the potential to become high level innovators, evaluators, communicators, problem formulators and/or problem solvers in our complex society."[1] It is estimated this group comprises approximately three percent of the general school population.

Traditionally, the term "gifted" has been applied to students with exceptionally high intellectual ability or achievement. As exemplified by the studies of Terman and Oden, this traditional definition has referred to superior abstract verbal ability and academic aptitude as evidenced by high scores on intelligence tests, usually 130 or 140 on individual tests.

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[1]Ibid.

The United States Office of Education has recently redefined and expanded the definition of the gifted to include a broader range of abilities and talents.

> "Gifted and talented children are those identified by professionally qualified persons, who, by virtue of outstanding abilities are capable of high performance. These are children who require differentiated educational programs and/or services beyond those normally provided by the regular school program in order to realize their contributions to self and to society."[1]

The abilities, either potential or demonstrated, are general intellectual ability, specific academic aptitude, creative or productive thinking, leadership ability, ability in visual and performing arts, and psychomotor ability. "A gifted individual is one who possesses exceptional abilities in any of these areas, either singly or in combination."[2] This definition includes approximately three to five percent of the total school population.

More than eighty percent of 204 experts who were polled for their reactions to the above definition agreed that the category gifted and talented should include those with general intellectual ability, those who manifest creative or productive thinking, those with academic aptitude, and/or those with ability in visual or performing arts. They also recommended inclusion of those with undeveloped potential. About half of the experts agreed that those who

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[1]Grace Lacey, Suggested Procedures for the Identification of the Gifted and Talented. (Albany, N.Y.: ERIC Document Reproduction Service ED 166886, 1978), p. 1.

[2]Ruth A. Martinson, The Identification of the Gifted and Talented (Ventura, California: Office of the Ventura County Superintendent of Schools, 1974), pp. 6-7.

demonstrate social adeptness and psychomotor ability should be included.[1]

Regardless of what definition is agreed upon by a community or school system, the end result should be the identification of those children (disadvantaged gifted included) who need special educational provisions to learn and to develop to their maximum potential.

Characteristics of the Gifted

Many studies have been concerned with the characteristics of the gifted, but a large proportion of the information disseminated on characteristics of gifted children has been derived from one major study, Terman's study of 1000 gifted children. School systems throughout the nation have often made decisions on identification, program and policies for the gifted on the basis of his findings.

Terman's study inferred that intellectually gifted students differ significantly from the general school population. They function at levels in advance of their peers and pose challenging educational problems because of their deviation from the norm. They are superior in abstract thinking and verbal reasoning, and they achieve well academically.

Terman observed several characteristics of intellectual giftedness in his studies. These students:[2]

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[1] Ibid.

[2] Alan J. White, Identification of the Gifted and Talented: Report of the Connecticut Task Force on Identification (Hartford, Conn. ERIC Document Reproduction Service, ED 093 119, 1974), pp. 73-74.

1. possess alertness beyond their years
2. have keen powers of observation
3. show a passionate desire to learn
4. ask endless questions
5. are interested in everything
6. are ambitious to excel
7. get the highest school marks
8. write excellent exam papers
9. have a fine command of language
10. have fine reading powers
11. show independence of judgement
12. are original thinkers
13. answer always to the point
14. have a keen sense of humor
15. have unusual power of concentration
16. are more dependable than other children their age

It was believed for many years that the gifted child was physically weak, immature and less attractive than the average child. Evidence has been collected over the years which indicates that not only was this belief incorrect, but exactly the opposite is true.

Elise Martens summarizes research findings on the physical status of gifted children by saying that they "show on the average high level of physical development."

Hollingworth, in a study of children with IQs above 189, found that general health was always considered good and that the development of these children was ahead of schedule in all respects.

In a report by Olson on the growth patterns of exceptional children, it is stated that the gifted child is not only superior in intellectual ability but that his entire growth pattern is accelerated. He is taller, weighs more and is stronger than the average child.

In another study by Hollingworth of gifted children with IQs above 130, the gifted children exceeded those of lesser mental

ability in height, weight and other physical traits.

Terman and Oden, Witty, Hollingworth, and Carroll state some of the characteristics which may be observed very early in the life of the gifted child. These are: quick understanding, curiosity, extensive information, retentive memory, large vocabulary and unusual interest in such things as number relations, atlases and encyclopedias.

Hollingworth stated that very early interest and ability in reading are signs of superior intelligence. She reports that in the opinion of their teachers, pupils selected as bright are more inquisitive, more imaginative, more courteous, and have a keener sense of humor than the average child.

Carroll says that gifted children are characterized by early development of self-criticism, iniative and independence in thinking, ability to see relationships, ability to make associations, adapting abstract principles to concrete situations and observing and remembering details. He also says that the gifted child is superior in such traits as desire to know, desire to excel, originality and power to learn.

William K. Durr summarized research studies that were published in the 1950's that reported the characteristics of gifted elementary school children:

> Children with high intelligence achieve above their class norms. They usually have favorable attitudes toward school, teachers and books. They read widely and may learn to read before entering first

grade.

Gifted children rank above average in mechanical ability, art judgement and capacity for musical knowledge.

Older gifted children are more likely to be wanted as friends by their peers and more capable of estimating their own sociometric status in a group.

In physical factors, the gifted rank high in appearance and low in number of childhood diseases.

The gifted do not deviate markedly from the average in personality patterns and reactions to frustrations.

However, those with high intelligence are significantly superior in many desirable personality traits when they are compared with children of below average intelligence.

The gifted seem to have fewer siblings than the average and although they come from all socioeconomic levels, there is a positive relationship between socioeconomic status and giftedness.

The following observable characteristics which may indicate giftedness is listed by Martinson:[1]

1. Shows independence of action
2. Takes initiative readily
3. Demonstrates fluency in verbal and nonverbal communication
4. Shows imagination
5. Is flexible in approach to problems
6. Demonstrates abstract thinking
7. Learns quickly through his experience

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[1]Martinson, The Identification of the Gifted and Talented, p. 119.

8. Retains and uses ideas and information well
9. Shows curiosity and a desire to learn in daily work and activities
10. Gives evidence of originality and creativity in patterns of thinking
11. Responds well in visual media
12. Shows leadership ability in his peer group
13. Exhibits responsible social behavior
14. Has varied interests
15. Is able to generalize learning to other areas

John Gladfelter, a clinical psychologist in cooperation with the founder of the Creative Learning Center in Dallas, Texas, developed this list of characteristics of the gifted:

1. Walks and talks at any early age
2. Has a long attention span
3. Is a good physical speciman
4. Shows unusual interest in a surprising area
5. Has a grandmother-grandfather personality (resembles a little old lady or a little old man)
6. Has the ability to easily read adult attitudes
7. Exhibits unusual memory and retention
8. Has a keen sense of humor
9. Can be shy, withdrawn and a loner
10. Can have an outgoing personality, communicating with the very young and the very old with equal ease
11. Is highly individualistic
12. Has an abiding curiosity and loves books
13. Is stubborn and seldom placid
14. Has older siblings who are bright
15. Occupies an extreme position in the family; is either the pet or the scapegoat
16. Adjusts easily to changing situations and environments

What is the disadvantaged gifted like? Is there a commonality of characteristics for all groups without regard to culture or economic background? Research by Jenkins, which was later confirmed by Adler, suggests that the commonality of behavioral characteristics of gifted persons clearly crosses boundaries of race and socioeconomic status.

Mary Frasier identifies the following as characteristics of

the disadvantaged gifted:

1. Ability to express feelings and emotions
2. Ability to improvise with commonplace materials
3. Articulateness in role playing and story telling
4. Enjoyment of and ability in creative movement, dance, dramatics, etc.
5. Enjoyment of the ability in music, rhythm
6. Expressive speech
7. Fluency and flexibility in nonverbal media
8. Enjoyment of and skills in group activities
9. Responsiveness to the concrete
10. Responsiveness to the kinesthetic
11. Expressiveness of gestures, body language
12. Humor
13. Richness of imagery in informal language
14. Originality of ideas in problem solving
15. Problem centeredness
16. Emotional responsiveness

Reissman lists the following as characteristics of the disadvantaged gifted:

1. Cooperativeness and willingness to give material aid
2. Love of independence
3. Enjoyment to be found in music, games and sport
4. Belief in both the desirability and worthwhileness of expressing ones feelings, be they anger or joy
5. Concern for the tangible
6. Interest in externals
7. Greater concern for the spatial than the temporal
8. Admiration of the aggressive over the passive
9. Desire for the problem centered or the practical as opposed to the abstract theoretical
10. Tendency toward the physical and visual as approaches to learning

The factor which sustains talent against the adverse effects of environment is almost always creative potential. Hence, most disadvantaged children have very high creative potential. Therefore, creativity tests offer another route for identifying disadvantaged talent besides the usual verbal IQ. Bruch credits Torrance with this list of strengths or creative positives of the creative disadvantaged:

1. High nonverbal fluency and originality
2. High creativity productivity in small groups
3. Adept in visual arts
4. Highly creative in movement, dance and other physical activities
5. Highly motivated by games, music and sports
6. Language rich in imagery

Torrance gives this description of the creatively gifted child:

1. Reacts positively to new, strange or mysterious elements in his environment
2. Persists in examining and exploring stimuli to know more about things
3. Is curious, investigative, asks penetrating questions
4. Has original approach to problem solving and unusual solutions
5. Is independent, individualistic, self-sufficient
6. Is imaginative, fantasy creating, a story teller
7. Sees relationships, is full of ideas, has conversational fluency
8. Prefers complex ideas, irritated or bored by routine
9. Can occupy time usefully without being stimulated by teacher
10. Personality aspects often identifying creative children are: strong and persistent sense of humor, dominance and self-sufficience which may appear as stubborness

Gowan and Torrance list some of the clues to personality of the unidentified gifted pupil which cannot be measured by IQ.

1. They have ability to generalize while resenting the same in others.
2. They are highly critical of themselves and others
3. They are generally restless
4. They are sensitive to values
5. Many gifted are creative and tend to "pop" questions that have aroused their curiosity
6. The gifted have perceptual alertness and curiosity
7. They have an early interest and superiority in reading
8. Although the gifted may be interested in idealism and want to solve big problems, they become so carried away that their exhaustive rambling irritates the teacher
9. Although they may follow the path of least resistance, they are occasionally dissatisfied with themselves. They want to be challenged and a textbook teacher, who puts

all the assignments on the blackboard, does not stimulate these inventive minds.

10. Sometimes the gifted child is an underachiever. Need for intellectual release carries them afield to substitute areas where they can make use of mental energies

Importance of Identification

The progress of society must depend in large measure on the accomplishments of its most capable and talented members. The society which fails to nurture the highest capabilities and talents of its youth fails in its obligations to them and to itself. The ideal or principle that each individual should have educational opportunity commensurate with his needs and capabilities is a commonly stated goal of American education. It is a goal that has not been fully accomplished.

The value to the gifted individual and to his society which accrue from identification and subsequent educational opportunities are well recognized. The accomplishments of the gifted exceed those of like numbers from the general population, both in quality and quantity. The dollar value of their accomplishments is impossible to estimate, but it is obvious that far more than economic benefits accrue from their output. Therefore, the identification and development of the abilities and talents of the gifted should be a major educational priority for every community.

Educational leaders everywhere recognize that there are gifted persons who never reach their potential because they remain unidentified and unrecognized, often throughout their school careers. "Even in states with highly developed programs for the gifted, less than half

of the expected number are being served. No state provides for a majority of its gifted."[1]

A survey conducted by the United States Office of Education, revealed that 58 percent of elementary and secondary school principals throughout the country stated that they have no gifted children in their schools, that at least three-fourths of the gifted and talented children receive no special attention of any kind, and that the neglect of this population is at least double that of any handicapped population.[2]

There are twenty-one states where no gifted children are being served. The total child population of these twenty-one states is over nine million, with an estimated 484,400 gifted and talented children.[3]

Some reasons given for the neglect of the gifted are: concern about the inadequacy of existing measures of identification; concern about the stability of measured intelligence; concern about costs; competing priorities; and fear of establishing an "elite."

Common beliefs on identification must change. We have to realize that the gifted are found in all populations and in all economic circumstances and the failure to identify them is most often due to

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[1]Ibid. p. 9.

[2]Grace Lacey. Suggested Procedures for the Identification of the Gifted and Talented. (Albany, N.Y.: ERIC Document Reproduction Service ED 166 886, 1978), p. 1

[3]Martinson, The Identification of the Gifted and Talented, p. 10.

a failure to seek them by proper means. The gifted will not identify themselves. No child, gifted included, wants to be singled out as "different."

The assumption that the gifted can survive without identification and special provisions is incorrect. Several major studies have shown that significant numbers of able students drop out of high school, the number of minority children in higher education is still very small, and nearly 20 percent of the most capable students fail to enter college.[1]

Terman regarded the gifted as the most retarded group in education when mental age and chronological age are related to their actual school experiences. It is a rare occurrence when the gifted child experiences an education appropriate to his abilities and talents.

Identification Problems

One purpose of measurement of giftedness is to identify as many individuals as possible who possess mental abilities significantly above the average. The problem is, how to do it.

Thorne has presented both the classic mental functions and the factors in intelligence which have been statistically derived. These abilities are measurable and indicate the complexity of the problem of identifying the child who is gifted and the one who is not.

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[1]Ibid. p. 13.

These mental functions are:[1]

1. Sensation
2. Perception
3. Memory
4. Symbolic or language function
5. Association and learning
6. Reasoning
7. Psychomotor ability
8. Mechanical ability
9. General intelligence

Certainly identification would be easier if there were only a single intelligence factor.

It would be impossible to state in which of these areas gifted children excel. Because of the highly verbal nature of most intelligence tests, it would seem likely that those children who are superior in symbolic or language function are the ones who are most frequently being identified as gifted.

A basic problem in measuring intellectual potential is not that those identified as gifted are not, but that many of the gifted remain unidentified.

Intelligence tests do not measure all aspects of intelligence, but only a small part of it. Those taking the tests and scoring high are truly gifted, but those making a lower score may or may not be gifted, or they may be gifted but not in the areas which that particular test attempted to measure. Although this happens, it does not mean that the test is wrong. It suggests that we should not rely on any single test or type of test in locating gifted children.

Intelligence tests are based on the assumption that all

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[1]Walter Barbe, ed. "Measurement of Giftedness," Psychology and Education of the Gifted: Selected Readings (New York: Meredith Publishing Co., 1965), p. 120.

children have the same cultural background. It should be recognized that disadvantaged children cannot be adequately measured by existing tests and special provision must be made to identify giftedness among these children in other ways.

S.P. Marland's report on the gifted and talented by the U.S. Office of Education, urged early identification. There appears to be much evidence that unfavorable social and educational environments act to suppress or divert leadership or creative potential to a point where it is not visible in later years, making early identification imperative. Studies show giftedness among the disadvantaged will decrease markedly from the primary to the intermediate grades; factors apparently operate to progressively retard their intellectual development.[1] Potentially gifted young children from a culture different from the mainstream and, in particular children from economically deprived homes can suffer from verbal deficiencies and lack of formation of basic concepts. True economy points to early ages, a time when the waste of underachievement can be avoided or at least reduced and when children face a longer period in schools which hopefully tailor programs to their needs.[2]

Research evidence is overwhelming that (1) the level at which an individual is able to score on an intelligence test, in relation to the scores of other individuals of comparable age, remains

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[1]Bess Tittle, "Searching for Hidden Treasure: Seeking the Culturally Different Gifted Child," Journal for the Education of the Gifted Child, Vol. 2, (Winter 1979), p. 80.

[2]Ibid.

fairly constant throughout later childhood and youth and probably in adult life too. (2) Ability to score on intelligence test is related to success in school and college and (3) individuals who make high scores on intelligence tests in youth are much more likely than others to attain distinction in adult life.

The problem of identifying the gifted members of a particular school population is not a matter that can be settled once and for all at any given point on the educational ladder. The problem needs continuing attention at all levels.

Two additional considerations should be pointed out in discussing the issue of identification. First, one of the major characteristics of the disadvantaged is their inability to master the linguistic and grammatical structures of the dominant culture. For this reason it is necessary to develop identification strategies which are not language dependent. Furthermore, because most youngsters have a greater facility with the spoken rather than the written word, it is especially important that the disadvantaged child not be required to write down all of his responses. Tape recorders or human recorders on individual tests can serve in uncovering higher forms of thinking which might go undetected because of limited writing ability.

Finally, the identification of talent potential among the disadvantaged should be a continuous process that begins in the early years and repeated at proper intervals.

The importance of identifying the gifted among disadvantaged children is apparent in the numbers whose abilities would be wasted otherwise. They are a larger population than the economically

privileged, they reside in every community, and appear in all ethnic groups. In terms of absolute numbers, the majority are white. The highest proportions, however, are among the various minority groups.

The assumption that all minorities are disadvantaged is naive, as is the failure to recognize that disadvantaged children come from many groups. Any identification effort which concentrates on a single population becomes partial and selective.

The majority of studies which purport to show that Negroes are less intelligent than Caucasians do not take into account social conditions. Studies of ethnic and socioeconomic factors have centered on group differences as found by group tests rather than similarities and the range of individual differences within groups.

Jensen cited a number of environmental factors, including health problems from birth on, which are more frequent in low socio-economic and certain ethnic groups and which tend to contribute to differences in measured group IQs.

Deprivation affects people of all colors. Blumenfield found that Negro National Merit Scholars tended to come from high socio-economic backgrounds and better equipped schools than the average black student. Bloom and others have pointed out the relationship between favorable environment and high group test ratings, and conversely low test ratings of deprived children.

The regression of performance was reported by Miller, who found that nearly three times as many superior children with Binet

IQs of 116 plus were found in the primary grades of five schools with predominately poor negro children as in the intermediate grades.

While recent studies have indicated decrease in school achievement and loss in IQ among minority groups, earlier studies showed the same phenomena among poor white children.

The greatest errors occur when group tests only are used for identification. It is important that those seeking to reduce the loss of talent avoid the use of rigid cutoff scores.

Identification Procedures

Review of the literature has revealed several important considerations regarding identification procedures and selection of candidates for gifted programs. According to Alan J. White, no single identification scheme is without its shortcomings, nor is any one design appropriate for identification of every type of gifted or talented student.

Three important questions must be answered before an identification model is implemented:

1. How many students will the program focus upon?
2. What area or areas will the program focus upon (language arts, science, etc.)?
3. From what grade levels will the student be selected?

Writers and researchers in the field seemed to be in accord, that multiple criteria and identification instruments are essential to any identification model.

In almost all of the identification models reviewed, a

selection committee was a commonality. The selection committee, after careful examination of all available data has the responsibility for final selection of candidates.

Identification includes some or all of the following procedures: Group tests of inelligence and achievement, creativity tests, teacher nomination, parent information and/or nomination, pupil data, pupil products, teacher and parent notations on traits and behavioral scales.

Given the will to do so, potentially gifted pupils can be identified by the traditional measures (group intelligence and achievement tests) despite their biases.

Jenkins used traditional measures to find gifted children for Binet testing in predominately black Chicago schools. He examined data from thirteen studies on more than 22,000 black children and found that 1 percent had IQs of 130 or more. If group tests were the basis for this estimate the true number of gifted should have been considerably higher.

Ruth Martinson cautions that group tests should be used for screening purposes only and not for final identification and selection. It is wise to remember that group tests may pass over students with reading difficulties, emotional or motivational problems or students from disadvantaged backgrounds.

Nowhere in the review of literature did I find identification models that established local norms on group intelligence and achievement tests for the various groups, to reduce the effect of language bias.

Nomination by teachers is one of the most widely used and recommended means for identifying potentially gifted pupils, yet some research indicates the method has limited usefulness. The same research indicates that it not only fails to locate a significant proportion of the gifted population but consistently results in a large number of "false positives" being referred for individual testing.

A more recent group of studies has offered evidence that teachers can be highly accurate predictors of children's academic performance and abilities. In these studies, teachers were not requested to make global judgements of their students' potential; rather they were asked to rate children on specific traits on the basis of observed behavior.

Rating scales used by teachers to identify giftedness generally have been based on lists of characteristics of the gifted. These scales provide a frame of reference for considering not only traits of the gifted but also some of their problems. Scales are useful in identification, however, items on the scales should be clearly understood by teachers and include those qualities or traits which are readily observed in classroom situations. Scales should demand as little time from teachers as possible.

Many programs also use peer and self-nomination. Studies have shown both these methods as being highly effective. Peers nominated students that teachers would never have selected for leadership roles. Peer nomination and parent nomination seemed to be about equal in effectiveness in identifying gifted students.

Joseph Renzulli suggests two instruments that are especially useful in identification of the disadvantaged, Torrance Tests of Creativity and Thinking and the Alpha Biographical Inventory.

Baldwin has designed a new identification matrix (BIM) to provide a more equitable method for identifying the gifted.[1] In the Baldwin matrix, standardized IQ and achievement tests are used, along with additional instruments which expand the data base and establish the acceptance of a broad range of abilities to be added. The BIM has been designed to cover the expanded definition of giftedness now in widespread use to include academic, creativity, kinesthetic and psychosocial abilities. The matrix provides a method of pulling together scores from scales which are used in testing abilities in all of these areas. The total score on the matrix gives the disadvantaged child a more equitable opportunity to compete for selection in a specialized gifted program.

The review of literature revealed several identification models that exhibited comprehensive procedures and guidelines for use in screening and selection for gifted programs.

Joseph Renzulli's System for Identifying Gifted and Talented is a very comprehensive plan designed to take into account a variety of identification criteria, to minimize the amount of individual testing required, and to show a relationship between the objectives of the program and the criteria upon which selection is based. The detailed steps in the procedure is designed to begin with a large pool of

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[1] Ibid. p. 83.

prospective candidates, and at each step recommend for placement those who qualify according to the criteria. Those candidates failing to meet the criteria are dropped from further consideration or continued for further screening if they meet certain special guidelines.

The State Department of Education of Massachusetts recommends as one approach to the identification of academically talented pupils, a two step procedure:[1]

I. Screening Procedure

A. Pupils who meet one or more of the following criteria are nominated for possible placement in academically talented programs.

1. Group IQ - 120 or higher
2. Marks A and B
3. Emotionally adjusted
4. Upper 10 percent of local achievement norms or achievement at least two years above grade level.
5. Recommended

II. Final Selection

A. Each candidate may be placed in a program if a pupil meets criteria 1 and 4 of the above.

B. Further evaluation is necessary if each student meets criteria 1 and 4 but does not meet criteria 2, 3, and 5. Further evaluation is needed if a student meets criteria 1 but not 4 or 4 but not 1.

C. Further evaluation may include

1. Administering of an individual IQ test
2. Administering a group IQ test individually to a prospective pupil
3. After a reasonable length of time, readminister other forms of group IQ tests previously given or administer another group intelligence test

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[1]Alan J. White, Identification of the Gifted and Talented: Report of the Connecticut Task Force on Identification (Hartford, Conn.: ERIC Document Reproduction Service, ED 093 119, 1974), pp. 30-33.

Another two-stage Identification and Selection model is one used by the Flint, Michigan gifted program.[1] The purpose of the identification stage is to identify a large pool of pupils potentially eligible for the gifted program thereby maximizing identification of disadvantaged children. The purpose of the selection stage is to narrow the identification pool down by selecting those pupils most eligible for the program. The selections stage is conducted by a selection committee. Pupils are identified for consideration in the identification stage by the following means: (1) parent nomination, (2) teacher nomination, and (3) achievement data. A child has to meet at least one of the following criteria in order to be placed into the pool of pupils potentially eligible for the gifted program.

1. Score at approximately the top 10 percent in building, by grade, on the parent questionnaire
2. Be nominated by at least one faculty member on at least one criterion, through the faculty nomination process
3. Score at least two years above grade level on SRA achievement test reading and math scores

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[1]Theodore Storlie, and others, The Development of a Culturally Fair Model for the Early Identification and Selection of Gifted Children (Evanston, Ill.: ERIC Document Reproduction Service, ED 159 299, 1987) pp. 14-19.

CHAPTER III

Methods and Procedure

Gifted children are not easily recognized. They possess just as many varied differences in aptitudes, skills, interests, and abilities, as the non-gifted. Therefore, a successful identification model for the gifted must include the following characteristics: a systematic and continuous search for exceptional ability, the involvement of various professionals, the use of multiple criteria and special consideration given to the identification of the disadvantaged. In addition, the model should maintain flexibility so that some gifted and talented children who would benefit from special opportunities but who do not quite qualify on tests, can be included.

In keeping with the definition of "gifted students," as defined by the Georgia State Plan for the Education of the Gifted, the following criteria are proposed:

1. Mental ability tests
2. Non verbal tests
3. Achievement tests
   a. Reading achievement
   b. Math achievement
4. Teacher rating scale
   a. Leadership potential
   b. Learning characteristics
   c. Motivation
   d. Creativity

Although research indicates that gifted children can be more effectively identified with an individual intelligence test, the rationale for the use of a group measure, such as the Otis-Lennon, includes the following:

1. A group test is less expensive in both time and money

2. A group test does not require the services of a psychologist or psychometrist

3. The extensive use of the Otis-Lennon in the testing program of Rome City Schools, and its popularity with other school systems throughout the country

4. It provides a comprehensive assessment of general mental ability or scholastic aptitude

5. It measures broad reasoning abilities that are important to academic success

Mental Ability Tests

Group mental ability tests have been criticized because they stress verbal ability and thus penalize certain disadvantaged groups. To minimize the unfairness of the verbal content of the Otis-Lennon, it is proposed that local norms be developed for four different groups: White Advantaged (WA), White Disadvantaged (WD), Black Advantaged (BA), and Black Disadvantaged (BD).

The results of a test comparing the mean IQ scores on the Otis-Lennon for each of these groups are shown in Table I on page 32.

For each group the mean IQ score is higher for girls than for boys. The differences in mean IQ scores between boys and girls in each group are: 1.3 points (WA), 5 points (WD), 6 points (BA), and 5 points (BD). When the white advantaged group and the black advantaged group are compared, the mean IQ score for white advantaged girls is five points greater than the mean IQ score for black advantaged girls. Likewise, the mean IQ score for white advantaged boys is ten points greater than the mean IQ score for black advantaged boys.

TABLE I

Means and Standard Deviations and t-Test Summary Table Comparing 4th and 5th Grade Boys and Girls on Otis-Lennon IQ Scores

	White Advantaged	White Disadvantaged	Black Advantaged	Black Disadvantaged
$\bar{X}$(Mean)	105.6(n=122)	95.4(n=45)	100.8(n=31)	88.9(n=116)
Girls				
s(St.Dev.)	14.6	14.25	12.6	11.1
$\bar{X}$(Mean)	104.3(n=135)	90.2(n=47)	94.5(n=24)	84.1(n=135)
Boys				
s(St.Dev.)	15.2	14.9	16.2	13.7
Value of t	t=.71	t=1.82	t=1.57	t=3.16
Critical t (.05)	1.65	1.66	1.68	1.65

*t value less than critical t - Not statistically significant

A similar comparison between both disadvantaged groups shows the mean IQ score of white disadvantaged girls to be six points greater than the mean IQ score of black disadvantaged girls; and the mean IQ score of white disadvantaged boys to be six points greater than the mean IQ score of black disadvantaged boys.

The t statistic was computed for each group and the value of critical t at the .05 level for each group was obtained from a table of critical t values. When the value of t was compared with the critical value of t at the .05 level for each group, a significant difference was shown to exist with the white disadvantaged group and the black disadvantaged group. Also, the black advantaged group was shown to approach significance. This would suggest a need for developing separate local norms for boys and girls for white disadvantaged, black advantaged,

and black disadvantaged groups.

Table 2 on page 33, summarizes the mean IQ scores and standard deviations of 653 fourth and fifth grade pupils on the Otis-Lennon Mental Ability Test. Using the analysis of variance statistical procedure, a comparison of the mean IQ score for each group shows that a significant difference does exist.

TABLE 2

Means, Standard Deviations, and Analysis of Variance Summary Table for Otis-Lennon IQ Score Comparisons of 4th and 5th Grade Pupils

		White Advantaged	White Disadvantaged	Black Advantaged	Black Disadvantaged
Boys	$\bar{X}$(Mean)	104.37 (n=135)	90.21 (n=24)	94.95 (n=24)	84.1 (n=133)
	s(St.Dev.)	15.12	14.29	16.19	13.74
	F = 36.7		.95 $F_{3,}$ (335) = 2.64		
Girls	$\bar{X}$(Mean)	105.63 (n=122)	95.42 (n=45)	100.8 (n=31)	88.8 (n=116)
	s(St.Dev.)	14.68	14.25	12.62	11.1
	F = 38.28		.95 $F_{3,}$ (649) = 2.64		
Combined	$\bar{X}$(Mean)	104.97 (n=257)	92.76 (n=92)	98.25 (n=55)	86.3 (n=249)
	s(St.Dev.)	14.88	14.42	14.43	12.64
	F = 77.71		.95 $F_{3,}$ (649) = 2.62		

*F value greater than .95 F_{3}, (n) - Statistically Significant

For the boys, the value of F (36.7) is much greater than the critical value of F at the .95 level (2.64). This indicates a large significant difference. Similarly, the F value (38.28) and the critical value of F (2.64) for girls, indicates a slightly larger significant difference. When the scores for boys and girls are combined, the value for F (77.7) and the critical value of F (2.62) indicates the significant difference to be twice as large.

The data summarized in Table 3, page 34, indicates that a large significant difference exists in the mean IQ scores of tenth grade students between each group. The F value of (29.7), and the critical value of F (2.65), indicates the degree of statistical significance.

TABLE 3

Means, Standard Deviations and Analysis of Variance Summary Table for Otis-Lennon IQ Score Comparisons of 10th Grade Boys and Girls

	White Advantaged	White Disadvantaged	Black Advantaged	Black Disadvantaged
X(Mean)	101(n=141)	84.6(n=9)	90.4(n=36)	86.1(n=79)
s(St.Dev.)	12.39	27.74	9.74	9.33
	F = 29.74		.95 $F_{3,}$ (261) = 2.65	

*F value greater than .95 $F_{3,}$ (n) - Statistically Significant

The results of a Spearman Rank Order Correlation for fourth grade pupils on the Otis-Lennon is shown in Table 4.

TABLE 4

A Rank Order Comparison of % of Disadvantaged Pupils in Each Elementary School and % of Pupils With Above Average IQ (112) on the Otis-Lennon

Elem. School	Scores X % of Pupils Above Avg. (112 IQ)	Y % of Dis-advantaged	Rank X	Rank Y	D Diff.	D^2
AKD	2	68	6	2	4	16
EC	21	29	3	7	4	16
ELM	9	34	5	5	0	0
MAIN	0	75	8	1	7	49
NH	26	30	2	6	4	16
SE	1	64	7	3	4	16
WC	14	41	4	4	0	0
WE	37	11	1	8	7	49

*r = -.93

The value of r (-.93), shows that a nearly perfect negative correlation exists between the percent of disadvantaged pupils in each elementary school and the percent of pupils with above average IQ (112) in each school.

The data shown in Tables two, three, and four, lends strong support for the need to establish local norms on group mental ability tests that are used for the identification of gifted students. It is my contention that a model for identification, using this procedure, would be more equitable and less discriminatory to disadvantaged groups.

Non-Verbal Tests

The Raven Standard and Advanced Progressive Matrices are

non-verbal tests. "The standard matrice assesses a person's capacity to apprehend meaningless figures presented for his observation, see the relations between them, conceive the nature of the figure completing each system of relations presented, and, by so doing develop a systematic method of reasoning. The total score on the standard matrice provides an index of his intellectual capacity, whatever his nationality or education."[1] Published correlations between children's scores on the progressive matrices and tests of reading, spelling, and arithmetic, appear to justify this claim.

The advanced progressive matrice is used with persons over eleven years of age with average or above average intellectual ability. It can be used without a time limit in order to assess a person's maximum capacity for observation and clear thinking, or with a time limit to assess his speed of accurate intellectual work.

A major criticism of group and individual mental ability tests is their stress on verbal ability, which penalizes certain groups. The Raven's Progressive Matrices eliminates this bias, and therefore gives consideration to the disadvantaged gifted as well as the advantaged gifted.

The Raven's Progressive Matrices assesses to a degree, the criteria creativity, learning ability and general intellectual ability. It is recommended by many researchers for its nonbiased content, as an excellent assessment instrument for the identification of the gifted.

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[1] J.C. Raven, Guide to the Standard Progressive Matrices. (London: H.K. Lewis and Co. Ltd., 1965), p. 1

Achievement Tests

The Iowa Test of Basic Skills was selected as an assessment instrument for the identification model because of its extensive use in the Rome City School System. The ITBS provides for comprehensive and continuous measurement of growth in the basic skills: vocabulary, reading, language, methods of study, and mathematics. These skills are important in day to day learning activities as well as to future educational development.

The ITBS, like most group achievement tests, is subject to the same criticism as group intelligence tests. Therefore, local norms in Reading and Math scores should be developed and used in the identification procedure.

Researchers in the field of identification of the gifted agree that a group achievement test used in combination with a group intelligence test is an effective screening tool.

TABLE 5

Means, Standard Deviations and Analysis of Variance Summary Table for ITBS Reading Score Comparison of 6th, 7th and 10th Grade Students

Grade		White Advantaged	White Disadvantaged	Black Advantaged	Black Disadvantaged
6th	$\bar{X}$(Mean)	66.1n=20)	34.2(n=20)	29.5(n=20)	19.9(n=20)
	s(St.Dev.)	19.49	22.5	19.85	16.26
		F = 20.53		.95 $F_{3,}$ (76) = 2.78	
7th	$\bar{X}$(Mean)	58.6(n=20)	55.5(n=20)	47.5(n=20)	44.3(n=20)
	s(St.Dev.)	11.2	13.04	7.27	14.7
		F = 6.33		.95 $F_{3,}$ (76) = 2.78	
10th	$\bar{X}$(Mean)	75.2(n=103)	68.7(n=7)	64.3(n=33)	58.6(n=79)
	s(St.Dev.)	15.39	6.42	14.53	11.84
		F = 20.92		.95 $F_{3,}$ (218) = 2.65	

*F greater than .95 $F_{3,}$ (218) - Statistically Significant

The mean reading scores for sixth, seventh, and tenth grade students are shown in Table 5 above. The white advantaged group for each grade has the highest mean score. The white disadvantaged group is second, the black advantaged group is third, and the black disadvantaged group is fourth.

The value of F for each grade is greater than the critical value of F, and therefore indicates that a significant difference exists between the mean reading scores for each group. The seventh grade does not show the value of F to be as great as for the sixth and tenth grades.

TABLE 6

Means, Standard Deviation, and Analysis of Variance Summary Table for ITBS Math Score Comparisons of 6th, 7th, and 10th Grades

Grade	White Advantaged	White Disadvantaged	Black Advantaged	Black Disadvantaged
	X(Mean)	60.35(n=20)	26.15(n=20)	34.25(n=20)	33.0(n=20)
6th	s(St.Dev.)	32.8	18.97	28.68	21.08
	F = 7.59		.95 $F_{3,}$ (76) = 2.78		
	X(Mean)	56.1(n=20)	54.1(n=20)	46.9(n=20)	46.4(n=20)
7th	s(St.Dev.)	12.23	10.26	10.34	13.2
	F = 4.98		.95 $F_{3,}$ (76) = 2.78		
	X(Mean)	72.2(n=103)	75.1(n=7)	70.7(n=33)	64.2(n=79)
10th	s(St.Dev.)	13.84	6.42	11.87	11.07
	F = 6.9		.95 $F_{3,}$ (218) = 2.65		

*F greater than .95 $F_3(n)$ - Statistically Significant

Table 6 shows the mean math scores for sixth, seventh, and tenth grade students in each of the four groups. The white advantaged group has the highest mean score for each grade. For the sixth grade, the black advantaged group is second, the black disadvantaged group is third, and the white disadvantaged group is fourth. For the seventh

grade, the white disadvantaged group is second, with the black advantaged group and the black disadvantaged group having almost the same mean score (46.9 and 46.4).

The mean scores in math for the tenth grade, ranks the white disadvantaged group second, the black advantaged group third, and the black disadvantaged group fourth. Since the value of F for each grade is greater than the corresponding critical value of F, a significant difference exists between each of the four groups.

The data shown in tables five and six, lends support for the contention that local norms in reading and math should also be established for group achievement tests, and used for the identification of the gifted. This procedure gives all potential gifted students equal opportunity to be selected for special programs.

Renzulli-Hartman Scale

The Renzulli-Hartman Rating Scale (Appendix A), compiled from research on traits of gifted children, is selected as the final instrument to be used in the identification model. This rating scale will assess the areas of Leadership, Learning Characteristics, Motivation, and Creativity. This rating scale provides a more objective instrument to guide teacher judgement in the identification of the gifted. Each scale requires the teacher or other person completing the form to respond to items presented by checking one of the four options: seldom or never, occasionally, considerable, or almost always.

Validation studies indicate satisfactory inter-judge reliability; comparisons of the Learning and Motivation scales with standardized tests of intelligence and learning show them to correlate well with

group tests.[1]

Renzulli and his colleagues suggest that only those scales that are relevant to program objectives be selected for use. The four scales, learning characteristics, motivational characteristics, creativity characteristics and leadership characteristics, are consistent with the objectives of most programs for the gifted.

The Renzulli-Hartman scales will be used in grades four, seven, and ten and will be completed on each student scoring one standard deviation above the mean on any one of the three screening instruments: (1) Otis-Lennon IQ, (2) ITBS Reading, and (3) ITBS Math.

A training session to familiarize teachers with the content of the rating scales and procedures for rating a student, will be conducted in an effort to make the ratings more objective.

There is no need for development of local norms since local teachers will be doing the rating.

Baldwin Identification Matrix (BIM)

If a school system accepts the rationale for an expanded definition of giftedness, and the need for multiple criteria for identifying gifted students; it faces the task of combining scores into a workable, nondiscriminatory format that can be used to interpret the child's qualifications for the gifted program.

The Baldwin Identification Matrix (Appendix B), has been used successfully in Minnesota schools to pull together all the assessment

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[1]Ruth A. Martinson, The Identification of the Gifted and Talented, p. 31.

techniques used into a profile which allows a child equal access to gifted programs.

The BIM total score is used to:

1. Rank order students and select a predetermined number of students that can be accommodated by the program from the top of the ranked list.

2. Determine which students should be included based on a percentage of the group, for example the top 3 or 5% of the ranked list.

The Identification Model

The assessment instruments to be used in conjunction with the Baldwin Identification Matrix are:

1. Mental ability tests (Otis-Lennon local norms)
2. Reading achievement (ITBS local norms)
3. Math achievement (ITBS local norms)
4. Raven Standard Progressive Matrice
5. Raven Advanced Progressive Matrice
6. Renzulli-Hartman scale
   a. Learning characteristics
   b. Leadership characteristics
   c. Motivational characteristics
   d. Creativity characteristics

The Otis-Lennon Mental Ability Test and the Iowa Test of Basic Skills will be used as a screening tool to identify a pool of potential candidates for the gifted program. These instruments will be administered every year in grades four, seven, and ten as part of the regular testing program of Rome City Schools.

Local norms for the Otis-Lennon, ITBS reading, and ITBS math as determined by this study will be used at the beginning. These local norms will be revised every three years.

The following steps summarize the identification procedure of the model:

1. Obtain scores on Otis-Lennon and ITBS for students scoring one standard deviation above the mean using local norms.
2. Enter scores on Individual Student Data Sheet (Appendix C).
3. Compute weighted score from local norms. Test score minus mean score divided by the standard deviation equals weighted score.
4. Refer all students in the identification pool who score +1 standard deviation (σ) or above on any one of the three screening instruments for further assessment.
5. Administer the Ravens Standard Progressive Matrix (for students below age 11) and the Ravens Advanced Progressive Matrix (for students above age 11).
6. Obtain three ratings from teachers of students, using the Renzull-Hartman scales.
7. All scores on the Otis-Lennon, ITBS reading, ITBS math, Ravens non-verbal, and Renzulli-Hartman scale will be plugged into the Baldwin Identification Matrix (Appendix B).
8. A total score will be derived from step 7 and potential candidates will be ranked according to their total score.
9. Develop case study on each potential candidate in accordance with guidelines of the Georgia State Plan for Education of the Gifted.
10. The Placement Committee will select candidates from the rank ordered list beginning with the candidate with the highest score.

Students new to the system will be administered the Otis-Lennon and ITBS if adequate test scores are not available from records. This will be the responsibility of the pupil personnel department.

Students may be nominated by teachers and added to the identification pool.

Validation Procedures

The identification model was validated for content validity by the following experts: Dr. Lamar Blanton, West Georgia College; Dr. Joe Walker, Georgia State University; Dr. Mary Frasier, University of Georgia; and Mr. Gary Walker, Title I Coordinator, Rome City Schools and President of the Georgia Association for Gifted Education.

A checklist of characteristics for the intellectually gifted (Appendix D), was developed from the Georgia State Plan for the Education of the Gifted. The experts listed above were asked to respond to two questions relating to the checklist: (1) Does the model provide evidence of these characteristics? (2) are the methods nondiscriminatory?

Another checklist (Appendix E), listing the same characteristics, and the six assessment instruments of the identification model was prepared. The panel of experts was asked to indicate which instrument measures or assesses which characteristic.

CHAPTER IV

Summary, Validation and Recommendations

In summary, the identification model will use the Otis-Lennon Mental Ability Test in combination with the Iowa Test of Basic Skills to screen potential candidates for the academically gifted program of Rome City Schools.

Local norms established for the Otis-Lennon, ITBS Reading and ITBS Math, will be used with the following groups during the screening process: White disadvantaged, black advantaged, and black disadvantaged.

All students scoring one standard deviation above the mean on the local norm for their group on any one of the three screening instruments, will make up the identification pool. These students will be eligible for further consideration.

All students not scoring one standard deviation above the mean will not be eligible for further consideration, unless nominated by a teacher.

Otis-Lennon IQ scores, ITBS reading and math scores will be entered on an Individual Student Data Sheet (Appendix C) for all students receiving further consideration. A weighted score will be computed using the local norms. The formula used for computing the weighted score is:

$$\frac{\text{Test score} - \text{Mean score}}{\text{Standard Deviation}} = \text{Weighted score}$$

The weighted scores will be plugged into the Baldwin Identification Matrix (Appendix B).

The Ravens Standard or Advanced Progressive Matrices will be administered to each student still under consideration. Also, three ratings by teachers on the Renzulli-Hartman scale will be obtained. An average score from the three ratings on the Renzulli-Hartman scales will be plugged into the Baldwin Identification Matrix along with the Ravens score.

The Baldwin Identification Matrix will yield a total score that will rank order each student from the highest to the lowest score.

The placement committee will select candidates according to their rank until the maximum number that the program can accommodate is reached.

Validation Statements

Dr. Lamar Blanton, West Georgia College, recommended several minor changes but was in complete agreement with the validation checklists shown in Appendix D and E.

Dr. Joe Walker, Professor of Gifted Education, Georgia State University made this statement, "The model appears to be nondiscriminatory in terms of race and socio-economic level, and it does appear to identify those characteristics of the intellectually gifted as stated in the Georgia State Plan for the Education of the Gifted."

Mr. Gary Walker, Title I Coordinator, Rome City Schools and President of the Georgia Association for Gifted Education, reviewed the model and agreed that it appears to be a realistic, defensible, economical method of identifying students for a program for academically gifted students.

Dr. Mary Frasier, University of Georgia, who suggested the use of local norms in the developmental stages of the identification model made this statement, "The use of local norms as a basis for initial validation of students for participation in a gifted program is the fairest and most nondiscriminatory way of finding those children who would best profit from participation in programs for the gifted. The procedure outlined in this plan provides a unique opportunity for equal assessment of gifted potential for students from all social and economic levels."

Recommendations

The following recommendations are made as a result of this study:

1. The model can be used as a standard by the State Gifted Program or by other school systems.

2. The process of the identification model is applicable for other systems using similar instruments but not the specific results.

3. School systems using the model should determine the assessment instruments to be used according to their special needs and resources.

4. School systems using the model should develop their own local norms for the Mental Ability Tests and Achievement Tests that are used for screening.

5. Local norms that are developed, should be periodically revised, preferably, every three years.

6. Separate local norms for boys and girls should be developed for the white disadvantaged, black advantaged, and black disadvantaged groups.

7. Every effort should be taken to encourage students to do their best in any testing situation. Otherwise, test data will have no meaning.

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APPENDIX A

Appendix A

The Renzulli-Hartman Scale
for Rating Behavioral Characteristics of Superior Students*

Name_____ Date_____

School_____ Grade_____ Age_____
Yrs. Mos.

Teacher of person completing this form_____

How long have you known this child? _____Months.

DIRECTIONS. These scales are designed to obtain teacher estimates of a student's characteristics in the areas of learning, motivation, creativity, and leadership. The items are derived from the research literature dealing with characteristics of gifted and creative persons. It should be pointed out that a considerable amount of individual differences can be found within this population; and therefore, the profiles are likely to vary a great deal. Each item in the scales should be considered separately and should reflect the degree to which you have observed the presence or absence of each characteristic. Since the four dimensions of the instrument represent relatively different sets of behaviors, the scores obtained from the separate scales should not be summed to yield a total score. Please read the statements carefully and place an X in the appropriate place according to the following scale of values.

1. If you have seldom or never observed this characteristic.
2. If you have observed this characteristic occasionally.
3. If you have observed this characteristic to a considerable degree.
4. If you have observed this characteristic almost all of the time.

Space has been provided following each item for your comments.

SCORING. Separate scores for each of the three dimensions may be obtained as follows:

Add the total number of X's in each column to obtain the "Column Total."

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*Exceptional Children, Volume 38, Number 3, November, 1971, pp. 211-214, 243-248 and Dorothy F. Syphers, Gifted and Talented Children: Practical Programming for Teachers and Principals. Arlington, Virginia: The Council for Exceptional Children, 1411 South Jefferson Davis Highway, Suite 900. Developers are Dr. Joseph Renzulli, University of Connecticut, and Robert K. Hartman, Darien City Schools, Connecticut. Children with the highest scores on each behavior can be ranked. The behavior scores used in the student profile will be determined by the type of program being established.

Multiply the Column Total by the "Weight" for each column to obtain the "Weighted Column Total."
Sum the Weighted Column Totals across to obtain the "Score" for each dimension of the scale.
Enter the Scores below.

Learning Characteristics....._____

Motivational Characteristics....._____

Creativity Characteristics....._____

Leadership Characteristics....._____

PART I: LEARNING CHARACTERISTICS

	1*	2	3	4
1. Has unusually advanced vocabulary for age or grade level; uses terms in a meaningful way; has verbal behavior characterized by "richness" of expression, elaboration, and fluency.				
2. Possesses a large storehouse of information about a variety of topics (beyond the usual interests of youngsters his age).				
3. Has quick mastery and recall of factual information.				
4. Has rapid insight into cause-effect relationships; tries to discover the how and why of things; asks many provocative questions (as distinct from information or factual questions); wants to know what makes things (or people) "tick."				
5. Has a ready grasp of underlying principles and can quickly make valid generalizations about events, people, or things; looks for similarities and differences in events, people, and things.				
6. Is a keen and alert observer; usually "sees more" or "gets more" out of a story, film, etc. than others.				
7. Reads a great deal on his own; usually prefers adult level books; does not avoid difficult material; may show a preference for biography, autobiography, encyclopedias, and atlases.				
8. Tries to understand complicated material by separating it into its respective parts; reasons things out for himself; sees logical and common sense answers.				
Column Total				
Weight	1	2	3	4
Weighted Column Total				
TOTAL				

*1--Seldom or never
2--Occasionally
3--Considerably
4--Almost always

PART II: MOTIVATIONAL CHARACTERISTICS

1. Becomes absorbed and truly involved in certain topics or problems; is persistent in seeking task completion. (It is sometimes difficult to get him to move on to another topic.)
2. Is easily bored with routine tasks.
3. Needs little external motivation to follow through in work that initially excites him.
4. Strives toward perfection; is self critical; is not easily satisfied with his own speed or products.
5. Prefers to work independently; requires little direction from teachers.
6. Is interested in many "adult" problems such as religion, politics, sex, race--more than usual for age level.
7. Often is self assertive (sometimes even agressive); stubborn in his beliefs.
8. Likes to organize and bring structure to things, people, and situations.
9. Is quite concerned with right and wrong, good and bad; often evaluates and passes judgment on events, people, and things.

1	2	3	4
Column Total			
Weight	1	2	3	4
Weighted Column Total				
TOTAL				

PART III: CREATIVITY CHARACTERISTICS

1. Displays a great deal of curiosity about many things; is constantly asking questions about anything and everything.
2. Generates a large number of ideas or solutions to problems and questions; often offers unusual ("way out"), unique, clever responses.
3. Is uninhibited in expressions of opinion; is sometimes radical and spirited in disagreement; is tenacious.
4. Is a high risk taker; is adventurous and speculative.
5. Displays a good deal of intellectual playfulness; fantasizes; imagines ("I wonder what would happen if..."); manipulates ideas (i.e., changes, elaborates upon them); is often concerned with adapting, improving, and modifying institutions, objects, and systems.
6. Displays a keen sense of humor and sees humor in situations that may not appear to be humorous to others.

1	2	3	4

7. Is unusually aware of his impulses and more open to the irrational in himself (freer expression of feminine interest for boys, greater than usual amount of independence for girls); shows emotional sensitivity.
8. Is sensitive to beauty; attends to aesthetic characteristics of things.
9. Is nonconforming; accepts disorder; is not interested in details; is individualistic; does not fear being different.
10. Criticizes constructively; is unwilling to accept authoritarian pronouncements without critical examination.

1	2	3	4
1	2	3	4

Column Total

Weight

Weighted Column Total

TOTAL

PART IV: LEADERSHIP CHARACTERISTICS

1. Carries responsibility well; can be counted on to do what he has promised and usually does it well.
2. Is self confident with children his own age as well as adults; seems comfortable when asked to show his work to the class.
3. Seems to be well liked by his classmates.
4. Is cooperative with teacher and classmates; tends to avoid bickering and is generally easy to get along with.
5. Can express himself well; has good verbal facility and is usually well understood.
6. Adapts readily to new situations; is flexible in thought and action and does not seem disturbed when the normal routine is changed.
7. Seems to enjoy being around other people; is sociable and prefers not to be alone.
8. Tends to dominate others when they are around; generally directs the activity in which he is involved.
9. Participates in most social activities connected with the school; can be counted on to be there if anyone is.
10. Excels in athletic activities; is well coordinated and enjoys all sorts of athletic games.

1	2	3	4
1	2	3	4

Column Total

Weight

Weighted Column Total

TOTAL

APPENDIX B

Behavioral Assessment Matrix (BAM)

ADAPTED FOR USE BY: DATE

STUDENT	SCHOOL
AGE GRADE SEX	SCHOOL DISTRICT:

ASSESSMENT ITEMS	SCORES					
	5	4	3	2	1	D-NA
1. Mental Ability Test	2σ+	1⅓-2σ	1/3-1⅓σ	1/3-1/3σ	1-1/3σ	below +1σ
(Otis-Lennon Local Norms)						
2. Reading Achievement	2σ+	1⅓-2σ	1/3-1⅓σ	1/3-1/3σ	1-1/3σ	below +1σ
(ITBS Local Norms)						
3. Math Achievement	2σ+	1⅓-2σ	1/3-1⅓σ	1/3-1/3σ	1-1/3σ	below +1σ
(ITBS Local Norms)						
4. Raven Progressive Matrices	95%+	90-94%	75-89%	50-74%	25-50%	below 25%
(Standard or Advanced)						
5. Renzulli-Hartman Scale	148	130-147	112-129	94-111	74-93	below 74
(Total Scale Score)						
6.						
7.						
8.						
9.						
10.						
11.						
COLUMN TALLY OF CHECKS						
WEIGHT	×5	×4	×3	×2	×1	
ADD ACROSS	+	+	+	+		-
TOTAL SCORE						

OVER →

APPENDIX C

Appendix C

ROME CITY SCHOOLS
STUDENT DATA SHEET
FOR GIFTED-TALENTED SCREENING

Student _____ Sex _____ Age _____

Current Grade _____ Date _____

Race Black White Other (Circle One) Economic Situation Advantaged Disadvantaged (Circle One)

TEST	DATE	TEST SCORE	WEIGHTED SCORE
Otis-Lennon			
ITBS Reading Achievement			
ITBS Math Achievement			
Raven Progressive Matrices			
Renzulli-Hartman Scale			

OTHER TEST DATA			

APPENDIX D

Appendix D

Checklist for Intellectually Gifted

Characteristics	Does the model provide evidence of these characteristics?	Are the Methods nondiscriminatory?
1. Potential for significantly higher level of performance than average.	_____	_____
2. 1 3/4 standard deviation above the mean (IQ test).	_____	_____
3. Teacher referral.	_____	_____
4. Achievement test.	_____	_____
5. High degree of intellectual ability.	_____	_____
6. Innovator.	_____	_____
7. Evaluator.	_____	_____
8. Communicator.	_____	_____
9. Problem formulator.	_____	_____
10. Problem solver.	_____	_____
11. Leadership.	_____	_____

APPENDIX E

Appendix E

Characteristics	Otis-Lennon IQ	ITBS - Reading	ITBS - Math	Raven - Standard	Raven - Advanced	Renzulli-Hartman Scale
1. Potential for significantly higher level of performance than the average.						
2. 1 3/4 standard deviation above the mean (IQ test)						
3. Teacher referral						
4. Achievement test						
5. High degree of intellectual ability						
6. Innovator						
7. Evaluator						
8. Communicator						
9. Problem formulator						
10. Problem solver						
11. Leadership						

1. Complete a Listing Sheet (#1) for each ethnic group by grade level. These groups will probably include the following:

Black Female Advantaged	White Female Advantaged
Black Male Advantaged	White Male Advantaged
Black Female Disadvantaged	White Female Disadvantaged
Black Male Disadvantaged	White Male Disadvantaged

(Use Free and Reduced Lunch list to determine disadvantaged students).

2. Complete a Standard Deviation Computation form (#2) for each group by grade level.

3. Complete a Student Data Sheet for each student using appropriate mean and standard deviation to compute weighted scores (N/A for Raven and Renzulli-Hartman Scale).

4. Complete a Baldwin Identification Matrix for each student using weighted scores. The Baldwin Identification Matrix Inservice Kit by Alexinia Baldwin and Judith Wooster may be ordered from:

D.O.K. Publishers, Inc.
Buffalo, N.Y. 14214

Race:

Sex: Grade:

Economic Status:

LISTING SHEET FOR COMPUTING LOCAL NORMS

NAME	Mental Ability Test Score		Reading Achievement Test Score		Math Achievement Test Score	
	Score X	$(\text{Score})^2$ X^2	Y	Y^2	Z	Z^2
TOTALS	ΣX:	ΣX^2:	ΣY:	ΣY^2:	ΣZ:	ΣZ^2:

Sex: M Grade: 6

LISTING SHEET FOR COMPUTING LOCAL NORMS

Economic Status: White ADVANTAGED

NAME	Mental Ability Test Score		Reading Achievement Test Score		Math Achievement Test Score	
	Score X	$(\text{Score})^2$ X^2	Y	Y^2	Z	Z^2
James	120	14400	99	9801	97	9409
Robert	103	10609	86	7396	90	8100
William	97	9409	78	6084	93	8649
Charles	96	9216	73	5329	85	7225
Billy	101	10201	85	7225	88	7744
Kyle	107	11449	87	7569	90	8100
Corey	100	10000	85	7225	88	7744
Richard	97	9409	78	6084	94	8836
David	117	13689	92	8464	95	9025
Jon	92	8464	73	5329	86	7400
	$\Sigma X = 1030$	$\Sigma X^2 = 106446$	$\Sigma Y = 836$	$\Sigma Y^2 = 70506$	$\Sigma Z = 900$	$\Sigma Z^2 = 81232$

STANDARD DEVIATION COMPUTATION

RACE:_____ GRADE:_____ SEX:_____ ECONOMIC STATUS:_____

MENTAL ABILITY TEST:_____

$n =$ _____ (Number in Sample) $\quad \Sigma X^2 =$ _____ (Sum of Squared Scores) $\quad \bar{X} =$ _____ (Mean)

$$\Sigma x^2 = \Sigma X^2 - n\bar{X}^2 = (\qquad) - (\quad)(\qquad)$$

$$\Sigma x^2 = (\qquad)$$

$$S^2 = \frac{\Sigma x^2}{n-1} = \frac{(\qquad)}{(\qquad) - 1} = (\qquad)$$

$$S = \sqrt{S^2} = \sqrt{(\qquad)} = \boxed{\qquad}$$

READING ACHIEVEMENT TEST:_____

$n =$ _____ $\quad \Sigma Y^2 =$ _____ $\quad \bar{Y} =$ _____

$$\Sigma y^2 = \Sigma Y^2 - n\bar{Y}^2 = (\qquad) - (\quad)(\qquad)$$

$$= (\qquad)$$

$$S^2 = \frac{\Sigma y^2}{n-1} = \frac{(\qquad)}{(\qquad) - 1} = (\qquad)$$

$$S = \sqrt{S^2} = \sqrt{(\qquad)} = \boxed{\qquad}$$

MATH ACHIEVEMENT TEST:_____

$n =$ _____ $\quad Z =$ _____ $\quad \bar{Z} =$ _____

$$\Sigma z^2 = \Sigma Z^2 - n\bar{Z}^2 = (\qquad) - (\quad)(\qquad)$$

$$= (\qquad)$$

$$S^2 = \frac{\Sigma z^2}{n-1} = \frac{(\qquad)}{(\qquad) - 1} = (\qquad)$$

$$S = \sqrt{S^2} = \sqrt{(\qquad)} = \boxed{\qquad}$$

STANDARD DEVIATION COMPUTATION

RACE: W GRADE: 6 SEX: M ECONOMIC STATUS: Advantaged

MENTAL ABILITY TEST: OTIS - Lennon

$n =$ 10 (Number in Sample) $\Sigma X^2 =$ 101 94 (Sum of Squared Scores) $\bar{X} =$ [illegible] (Mean)

$\Sigma x^2 = \Sigma X^2 - n\bar{X}^2 =$ (106 84) - ([illegible]) ([illegible])

$\Sigma x^2 =$ (7.52)

$S^2 = \frac{\Sigma x^2}{n-1} =$ (7.52) / (10) - 1 = (.84)

$S = \sqrt{S^2} = \sqrt{(\ .84\ )} =$ .92

READING ACHIEVEMENT TEST: ITBS

$n =$ 10 $\Sigma Y^2 =$ 70504 $\bar{Y} =$ 29.2

$\Sigma y^2 = \Sigma Y^2 - n\bar{Y}^2 =$ (70504) - (10) ([illegible])

$\Sigma y^2 =$ (6.4)

$S^2 = \frac{\Sigma y^2}{n-1} =$ (6.4) / ([illegible]) - 1 = ([illegible])

$S = \sqrt{S^2} = \sqrt{(\ .71\ )} =$ [illegible]

MATH ACHIEVEMENT TEST: ITBS

$n =$ 10 $\Sigma Z^2 =$ [illegible] $\bar{Z} =$ [illegible]

$\Sigma z^2 = \Sigma Z^2 - n\bar{Z}^2 =$ ([illegible]) - ([illegible]) ([illegible])

$\Sigma z^2 =$ ([illegible])

$S^2 = \frac{\Sigma z^2}{n-1} =$ ([illegible]) / ([illegible]) - 1 = ([illegible])

$S = \sqrt{S^2} = \sqrt{(\ 2.8\ )} =$ [illegible]

ROME CITY SCHOOLS
STUDENT DATA SHEET
FOR GIFTED-TALENTED SCREENING

Student _____ Sex _____ Age _____

Current Grade _____ Date _____

Race Black White Other (Circle One) Economic Situation Advantaged Disadvantaged (Circle One)

DATE	TEST	SCORE	-	MEAN	÷	STANDARD DEVIATION	=	WEIGHTED SCORE
	( ) Mental Ability Test	____	-	$\overline{x}$	÷	s_x	=	____
	( ) Reading Achievement	____	-	$\overline{y}$	÷	s_y	=	____
	( ) Math Achievement	____	-	$\overline{z}$	÷	s_z	=	____
	Raven Progressive Matrices	____	→					____
	Renzulli-Hartman Scale	____	→					____

OTHER TEST DATA		

ROME CITY SCHOOLS
STUDENT DATA SHEET
FOR GIFTED-TALENTED SCREENING

Student _____ Sex _____ Age _____

Current Grade _____ Date _____

Race Black White Other (Circle One)

Economic Situation Advantaged Disadvantaged (Circle One)

DATE	TEST	SCORE	-	MEAN	÷	STANDARD DEVIATION	=	WEIGHTED SCORE
	(Otis-Lennon) Mental Ability Test		-		÷		=	
	(ITBS) Reading Achievement		-		÷		=	
	(ITBS) Math Achievement		-		÷		=	
	Raven Progressive Matrices				→			
	Remmulli-Hartman Scale				→			

OTHER TEST DATA		

Baldwin Identification Matrix (BIM)

ADAPTED FOR USE BY: Rome City Schools DATE

STUDENT | SCHOOL

AGE GRADE SEX | SCHOOL DISTRICT: Rome City

ASSESSMENT ITEMS	SCORES 5	4	3	2	1	B-NA
1. Mental Ability Test (Otis-Lennon Local Norms)	2σ+	1⅔-2σ	1⅓-1⅔σ	1/3-1⅓σ	1-1/3σ	below +1σ
2. Reading Achievement (ITBS Local Norms)	2σ+	1⅔-2σ	1⅓-1⅔σ	1/3-1⅓σ	1-1/3σ	below +1σ
3. Math Achievement (ITBS Local Norms)	2σ+	1⅔-2σ	1⅓-1⅔σ	1/3-1⅓σ	1-1/3σ	below +1σ
4. Raven Progressive Matrices (Standard or Advanced)	95%+	90-94%	75-89%	50-74%	25-50%	below 25%
5. Renzulli-Hartman Scale (Total Scale Score)	148	130-147	112-129	94-111	74-93	below 74
6.						
7.						
8.						
9.						
10.						
11.						
COLUMN TALLY OF CHECKS						
WEIGHT	x 5	x 4	x 3	x 2	x 1	
ADD ACROSS	+	+	+	+		=
TOTAL SCORE		34				

OVER →

Appendix A

Baldwin Identification Matrix (BIM)

ADAPTED FOR USE BY: Rome City Schools DATE

STUDENT | SCHOOL

AGE GRADE SEX | SCHOOL DISTRICT: Rome City

ASSESSMENT ITEMS	SCORES 5	4	3	2	1	N/A
1. Mental Ability Test (Otis-Lennon Local Norms)	2σ+	1⅔-2σ	1⅓-1⅔σ	1-1⅓σ	1-1⅓σ	below +1σ
2. Reading Achievement (ITBS Local Norms)	2σ+	1⅔-2σ	1⅓-1⅔σ	1-1⅓σ	1-1⅓σ	below +1σ
3. Math Achievement (ITBS Local Norms)	2σ+	1⅔-2σ	1⅓-1⅔σ	1-1⅓σ	1-1⅓σ	below +1σ
4. Raven Progressive Matrices (Standard or Advanced)	95%+	90-94%	75-89%	50-74%	25-50%	below 25%
5. Renzulli-Hartman Scale (Total Scale Score)	148	130-147	113-129	94-111	74-93	below 74
6.						
COLUMN TALLY OF CHECKS						
WEIGHT	x 5	x 4	x 3	x 2	x 1	
ADD ACROSS	+	+	+	+		
TOTAL SCORE					OVER →	